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## **EUROPEAN PATENT APPLICATION**

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## An improved process for the preparation of water soluble polymer dispersion.

The present invention is particularly useful in preparing a water soluble polymer dispersion. According to one preferred embodiment of the invention, the dispersion is prepared by polymerizing a water soluble mixture of from about 15 to about 30% percent by weight of a cationic monomer represented by the following general formula (I):

$$CH_{2} = C - R_{1} 
O = C - A_{1} - B_{1} - N_{1} CH_{2} - X_{1}^{\Theta} X_{1}^{\Theta}$$

$$R_{3}$$
(I)

where  $R_1$  is either hydrogen or  $CH_3$ ;  $R_2$  and  $R_3$  are each an alkyl group having 1 to 3 carbon atoms;  $A_1$  is either an oxygen atom or NH;  $B_1$  is either an alkylene group having 2 to 4 carbon atoms or a hydroxypropylene group, and  $X_1^{\circ}$  is an anionic counterion, and/or a second cationic monomer represented by the following general formula (II):

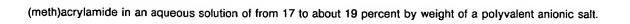
$$CH_{2} = C - R_{4} \qquad R_{5}$$

$$O = C - A_{2} - B_{2} - N - R_{7}X_{2}$$

$$R_{6}$$
(II)

where  $R_4$  is either hydrogen or  $CH_3$ ;  $R_5$  and  $R_6$  are each an alkyl group having 1 to 2 carbon atoms;  $R_7$  is a hydrogen atom or an alkyl group having 1 to 2 carbon atoms;  $A_2$  is either an oxygen atom or NH;  $B_2$  is either an alkylene group having 2 to 4 carbon atoms or a hydroxypropylene group and  $X_2^{\circ}$  is an anionic counterion; and







## **EUROPEAN SEARCH REPORT**

Application Number EP 94 11 9536

Category	Citation of document with indication, where appropriate, of relevant passages		Relevant to claim	CLASSIFICATION OF THE APPLICATION (IntCL6)
D,A A	EP-A-0 364 175 (KYOF EP-A-0 248 519 (PETF			C08F220/56 C08F220/34 C08F220/60
	•			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
	The present search report has be	en drawn up for all claims  Date of campleton of the search  11 May 1995	Cau	Remark Jwenberg, C
X : par Y : par doc A : teci O : cor	CATEGORY OF CITED DOCUMEN ticularly relevant if taken alone ticularly relevant if combined with anot ument of the same category anological background by titles disclosure remediate document	E : earlier patent doc	iment, but puble the application r other reasons	lished on, or

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